2. The haptic actuator of claim **1** wherein the PWM waveform has a pulse width that decreases over time for a number of pulses.

3. The haptic actuator of claim **2** wherein the PWM waveform has a constant pulse width after the number of pulses.

4. The haptic actuator of claim **1** wherein the PWM waveform has a decreasing amplitude for a number of pulses

5. The haptic actuator of claim **4** wherein the PWM waveform has a constant amplitude after the number of pulses.

6. The haptic actuator of claim **1** wherein the PWM waveform is a bipolar waveform.

7. The haptic actuator of claim **1** wherein the PWM waveform has a constant repetition rate.

8. The haptic actuator of claim **7** wherein the housing, at least one coil, and field member define a resonant frequency; and wherein the constant repetition rate is at an integer multiple of the resonant frequency.

9. The haptic actuator of claim **1** wherein the circuitry comprises:

an intermediate waveform generator capable of generating a bipolar square wave; and

a low pass filter coupled to the intermediate waveform generator.

10. The haptic actuator of claim **9** wherein the intermediate waveform generator is capable of generating an intermediate waveform based upon an exponential function.

11. An electronic device comprising:

a device housing;

wireless communications circuitry carried by the device housing;

a haptic actuator carried by the device housing and comprising

an actuator housing,

at least one coil carried by the actuator housing,

a field member movable within the actuator housing responsive to the at least one coil,

at least one mechanical limit stop between the actuator housing and the field member, and

circuitry capable of generating a pulse width modulated (PWM) waveform for the at least one coil to move the field member from an initial at-rest position and without contacting the at least one mechanical limit stop; and

a controller coupled to the wireless communications circuitry and the haptic actuator, and capable of performing at least one wireless communication function and selectively operating the haptic actuator.

12. The electronic device of claim **11** wherein the PWM waveform has a pulse width that decreases over time for a number of pulses.

13. The electronic device of claim **12** wherein the PWM waveform has a constant pulse width after the number of pulses.

14. The electronic device of claim **11** wherein the PWM waveform has a decreasing amplitude for a number of pulses

15. The electronic device of claim **14** wherein the PWM waveform has a constant amplitude after the number of pulses.

16. The electronic device of claim **11** wherein the PWM waveform is a bipolar waveform.

17. The electronic device of claim **11** wherein the PWM waveform has a constant repetition rate.

18. The electronic device of claim **17** wherein the housing, at least one coil, and field member define a resonant frequency; and wherein the constant repetition rate is at an integer multiple of the resonant frequency.

19. A method of operating a haptic actuator comprising a housing, at least one coil carried by the housing, a field member movable within the housing responsive to the at least one coil, and at least one mechanical limit stop between the housing and the field member, the method comprising:

using circuitry to generate a pulse width modulated (PWM) waveform for the at least one coil to move the field member from an initial at-rest position and without contacting the at least one mechanical limit stop.

20. The method of claim **19** wherein the circuitry generates the PWM waveform to have a pulse width that decreases over time for a number of pulses.

21. The method of claim **20** wherein the circuitry generates the PWM waveform to have constant pulse width after the number of pulses.

22. The method of claim **19** wherein the circuitry generates the PWM waveform to have decreasing amplitude for a number of pulses

23. The method of claim **22** wherein the circuitry generates the PWM waveform to have a constant amplitude after the number of pulses.

24. The method of claim **19** wherein the circuitry generates the PWM waveform as a bipolar waveform.

25. The method of claim **19** wherein the circuitry generates the PWM waveform to have a constant repetition rate.

26. The method of claim **25** wherein the housing, at least one coil, and field member define a resonant frequency; and wherein the constant repetition rate is at an integer multiple of the resonant frequency.

* * * * *